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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,149	04/28/2005	Kiyoharu Higashino	038917.55521US	9137

23911 7590 09/08/2008  
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EXAMINER
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OMGBA, ESSAMA

ART UNIT	PAPER NUMBER
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3726

MAIL DATE	DELIVERY MODE
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09/08/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 2, 3, 5 and 6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no disclosure in the specification as originally filed of the pair of joint projections being crimped individually **at two spots on each side along the axis of the column jacket**.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bleuel et al. (US Patent 5,992,263) in view of Fevre et al. (US Patent 5,743,150), Podhorsky et al. (EP 0 823 296), or in the alternative, Durocher et al. (US Patent 5,235,734) and Maruyama et al. (US Patent 5,088,768).

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With regards to claims 2 and 3, Bleuel et al. discloses a method of assembling steering columns wherein a pair of symmetrically formed projections (5, 5a) on a bracket 7 comprising inner surfaces in a circular arc shape conforming to an outer surface of a column jacket 6 are fitted around the jacket and welded to the outer surface of the jacket, see column 1, lines 66-67 and column 2, lines 1-5. Although Bleuel et al. discloses the clamp projections being welded to the outer surface of the column jacket rather than being crimped thereto, however it is known to secure such brackets to column jackets by either welding or crimping as attested by Fevre et al., see column 5, lines 19-21. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have crimped the bracket projections to the outer surface of the column jacket in the method of Bleuel et al., in light of the teachings of Fevre et al., in order to realize the benefits of using crimping over welding such as not weakening the material of the column jacket through heat from welding. Although Bleuel et al./Fevre et al. is silent on the manner the crimping is performed, however it is known to form crimp projections by applying a punch on an outer surface of the members being crimped while supporting an inner surface of the members by a die as attested by Podhorsky et al., see figures 4 and 5. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have applied a punch with an inner surface of the column jacket being supported by die, in crimping the projections in the method of Bleuel et al./Fevre et al., in light of the teachings of Podhorsky et al., as is known in the art. Regarding the recitation “the projections are crimped with the punch pressed towards a center of said column jacket”, Applicant should not that it is inherent

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that the punch used in the process of Bleuel et al./Fevre et al./Podhorsky et al. will be pressed toward a center of the column jacket since the projections are diametrically opposed to each other: this is a conventional process in crimping diametrically opposed structures to a cylindrical member. In the alternative, Durocher et al. teaches deforming a steering shaft member 100 with the use of a punch (balls 134) while an inner surface of the steering shaft member is supported by a die 126, the deformations being formed with the punch pressed toward a center of the steering shaft member, see figure 14. therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have crimped the projections in the method of Bleuel et al./Fevre et al./Podhorsky et al. with the punch pressed toward a center of the column jacket, in light of the teachings of Durocher et al., as is conventional in the art. Applicant should note that column jackets with flat sides are old and well known in the art as attested by Maruyama et al., see figure 5 with column jacket 1 having a pair of flat sides that extend parallel to an axis of the column jacket. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have formed the cylindrical column jacket of Bleuel et al./Fevre et al./Podhorsky et al./Durocher et al. with a pair of flat surfaces extending parallel to an axis thereof, in light of the teachings of Maruyama et al., as is known in the art. Furthermore it is within the general knowledge to form the column jacket and the projections with complementary mating surfaces prior to crimping since a change in form or shape is generally recognized as being within the level of ordinary skill in the art, absent any showing of unexpected results. *In re Dailey et al.* 149, USPQ 47. Regarding the

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recitation of crimping the joint projections at two spots on each side along the axis of the column jacket, Applicant should note that crimping the joint projections at two spots on each side along the axis of the column jacket is an obvious matter of design choice wherein no stated problem is solved or unexpected results obtained in crimping the joint projections at two spots on each side along the axis of the column jacket, as long as an effective joint is formed. The examiner submits that it is within the general knowledge of one of ordinary skill in the art to form an effective crimp joint.

For claim 5, Applicant should note that column jackets formed from mild steel are old and well known in the art.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bleuel et al./Fevre et al./Podhorsky et al./Durocher et al./Maruyama et al. as applied to claim 2 above, and further in view of Evans (US Patent 5,573,606).

Bleuel et al./Fevre et al./Podhorsky et al./Durocher et al./Maruyama et al. discloses a method of assembling steering columns as shown above except for the column jacket being formed from an Al-Mn alloy tube. However it is known to make steering columns from an Al-Mn alloy as attested by Evans et al., see column 4, lines 6-15 and 58-60. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have formed the column jacket of Bleuel et al./Fevre et al./Podhorsky et al./Durocher et al./Maruyama et al. from an Al-Mn alloy, in light of the teachings of Evans et al., in order to form a steering column that is light in weight without sacrificing strength.

***Response to Arguments***

6. Applicant's arguments with respect to claims 2, 3, 5 and 6 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Essama Omgba whose telephone number is (571) 272-4532. The examiner can normally be reached on M-F 9-6:30, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Essama Omgba/  
Primary Examiner, Art Unit 3726

eo  
September 3, 2008